

Appl. No. 10/053,768
Amtd. Dated July 20, 2004
Reply to Office Action of May 5, 2004

ATTORNEY DOCKET NO. 6145-C**REMARKS**

Claims 1 - 10 have been rejected. Claims 1, 7, and 10 have been amended, claims 5, 6 and 9 have been canceled, and new claim 11 has been added. Claims 1 - 4, 7, 8, 10, and 11 remain in the application.

Fee Transmittal Form SB/17 is enclosed for charging the Terminal Disclaimer Fee of \$110 to Deposit Account No. 50-1807.

Claims 1 - 3 have been rejected under 35 U.S.C. 102(b) as being anticipated by JP 4-315770. Regarding claim 1, in the abstract and Figures 1 and 2, the reference is cited as teaching a fuel cell comprising an anode 16, a fuel flow containment plate 13, an anode chamber defining a fuel flow path 14a, b, and a staging plate 10 located in the anode chamber to divide the flow of fuel therethrough to two different staging areas of the anode. The staging plate is cited as being essentially flat and extending parallel to the anode. Regarding claims 1, 2, and 3, the plate is cited as being provided with oval-shaped apertures over a section thereof, and, due to its position in the fuel cell, must be capable of conducting electricity. As a result, the conclusion is that the claims are anticipated.

Claim 4 has been rejected under 35 U.S.C. 103(a) as being unpatentable over JP 4-315770 for the reasons stated above even though the reference does not expressly teach that the plate is constructed from a high temperature metals as cited in claim 4. However, it is stated that the invention as a whole would have been obvious to one of ordinary skill in the art because the artisan would be motivated to use a high-temperature metal in the staging plate of JP '770. The fuel cell of JP '770 is cited as being of the molten carbonate type, which typically operates at temperatures exceeding 600 degrees C. The conclusion is that the artisan would be motivated to use a high-temperature metal for constructing the staging plate of JP '770.

Claims 1, 4, 6, and 10 have been rejected under 35 U.S.C. 103(a) as being unpatentable over JP 7-288133 on the following grounds. Regarding claim 1, the abstract and Figures 1 - 3 of the reference are cited as teaching a fuel cell comprising an anode 20, a fuel containment plate 60, an anode chamber defining a fuel flow path 40, and a staging plate 42 located in the anode chamber to

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divide the flow of fuel therethrough to two different staging areas of the anode. Regarding claims 1 and 6, Figure 5 is cited as showing that first and second staging plates 101, 102 may be used to divide the flow of fuel across three different sections of the anode. The staging plates are cited as being essentially flat. The translation of paragraph 16 of the reference is cited as stating that the staging plates may be made of a corrosion resistant material such as resin, carbon, or ceramic.

The reference does not expressly teach that the staging plates are capable of conducting electricity generated by the fuel cell, as recited in claim 1, or that they are constructed from a high temperature metal, as recited in claims 4 and 10.

However, the Office Action does make the conclusion that the invention as a whole would have been obvious to one of ordinary skill in the art because the reference's disclosure of carbon and ceramic reasonably indicates that the staging plates are electrically conductive. It has also been concluded that the reference's disclosure of a corrosion-resistant material in the staging plate would motivate the artisan to use a metal such as stainless steel, which can be considered to be a "high-temperature metal". The conclusion is that these limitations would be rendered obvious to the skilled artisan.

Claims 7 and 8 have been rejected under 35 U.S.C. 103(a) as being unpatentable over JP7-288133 as applied to claims 1, 4, 6, and 10 above, and further in view of JP 4-315770.

JP 7-288133 does not expressly teach that at least one of the staging plates has apertures over a section thereof.

JP 4-315770 is cited as teaching a staging plate provided with oval-shaped apertures over a section thereof.

The conclusion in the Office Action is that the invention as a whole would have been obvious because the artisan would be motivated to use the apertures of JP 4-315770 in the staging plate(s) of JP 7-288133. The abstract of JP 4-315770 is cited as teaching that gas concentration and current density on the anode surface are made uniform by the use of the apertures. Accordingly, it was concluded that the artisan would be motivated to use these apertures in the staging plate(s) of JP 7-288133 in hopes of better controlling and further optimizing the gas concentration distribution over the electrode surface.

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The rejection is duly noted but applicants respectfully traverse.

Claims 1 – 10 have been rejected under the doctrine of obviousness-type double patenting as being unpatentable over claims 8 – 19 of U.S. Patent No. 6,376,117. The claims are cited as not being patentably distinct from each other because the features of the instant claims not recited in the '117 patent claims would be obvious to the skilled artisan.

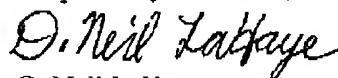
The Examiner kindly points out that claims 5 and 9 would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims and if the above-noted obviousness-type double patenting rejection is overcome.

A terminal disclaimer is enclosed to overcome the double patenting rejection. Therefore, this rejection should be overcome.

Claim 1 has been amended to include all the limitations of claim 5 and original claim 5 has been cancelled. New claim 11 includes all the limitations of original claim 9 and all intervening claims and claims 6 and 9 have been cancelled. Original claims 7 and 10 have been amended to depend upon new claim 11.

In view of the above amendments and remarks, it is respectfully submitted that the rejection is overcome and that claims 1 – 4, 7, 8, 10 and 11 distinguish the present invention over the cited art and it is respectfully requested that a notice of allowance issue in due course.

Respectfully submitted,



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